

*Department of Defense
Anthrax Vaccine
Immunization Program*

**Program Overview
2000 Army Worldwide
Public Affairs Symposium**

8 February 2000

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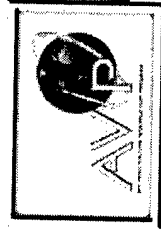
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DoD Anthrax Vaccine Immunization Program

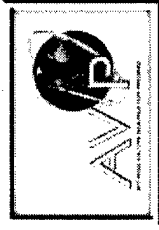
Why all the controversy?



Reactogenic Vaccine?

From the package insert....

“Occasional fever may result. A nodule may be palpable at the injection site for a few weeks. Sterile abscesses and SC atrophy may occur [10 cases/million doses]. Other adverse reactions include erythema, boggy edema, pruritis, lymphadenopathy and induration surrounding the injection site, pain and tenderness. Malaise, generalized aches and pains, headaches, flushing, pruritis, tachycardia, hypotension, anaphylaxis, and neurological complications can result. Arthus-type hypersensitivity reactions may result in some people.”

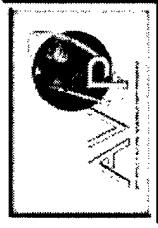


Carcinogenesis, Mutagenesis, Impairment of Fertility?

From the package insert...

“[The vaccine] has not been evaluated for its carcinogenic potential, mutagenic potential or potential for impairment of fertility.

Animal reproduction studies have not been conducted with [the vaccine]. It is also not known whether [the vaccine] can cause fetal harm when administered to a pregnant woman or can affect reproductive capacity. [The vaccine] should be given to a pregnant woman only if clearly needed.”



Media Attention?

In the newspaper...

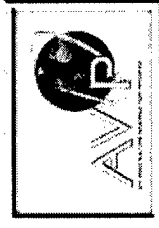
“In trying to enforce the medical fetish of vaccination on an unwilling public, it seems to me that the germ-huns owe it to the public to give a definition of what vaccination really is...

No doctor knows the composition of the vaccine...

No doctor knows what the effect is on the blood...

No doctor can guarantee his vaccinated victim against [the disease]...

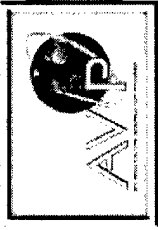
No doctor can say how long the supposed protection will last...”



Reactogenic Vaccine?

From the package insert...of the Tetanus Toxoid Vaccine

“Occasional fever may result. A nodule may be palpable at the injection site for a few weeks. Sterile abscesses and SC atrophy may occur [10 cases/million doses]. Other adverse reactions include erythema, boggy edema, pruritis, lymphadenopathy and induration surrounding the injection site, pain and tenderness. Malaise, generalized aches and pains, headaches, flushing, pruritis, tachycardia, hypotension, anaphylaxis, and neurological complications can result. Arthus-type hypersensitivity reactions may result in some people.”



Carcinogenesis, Mutagenesis, Impairment of Fertility?

From the package insert...of Hepatitis A Vaccine

“*Havrix* has not been evaluated for its carcinogenic potential, mutagenic potential or potential for impairment of fertility.

Animal reproduction studies have not been conducted with *Havrix*. It is also not known whether *Havrix* can cause fetal harm when administered to a pregnant woman or can affect reproductive capacity. *Havrix* should be given to a pregnant woman only if clearly needed.”



In the newspaper...March 22, 1919...Smallpox vaccine



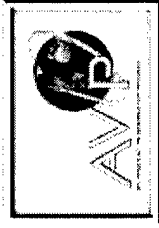
Agenda

- **Threat and Response**
- **Program Responsibilities**
- **Force Immunization Status**
- **AVA Stockpile/Phase II Delay**
- **Vaccine Efficacy**
- **Vaccine Safety**
- **Immunization Refusals**
- **Commo/Education Initiatives**
- **Research Initiatives**



Key Messages

- **The threat is real: biological warfare represents a grave and urgent danger to U.S. Armed Forces**
- **Anthrax is as deadly as the Ebola virus: 99% lethal to unvaccinated and untreated personnel**
- **The U.S. has a safe and effective vaccine, FDA-licensed, to counter the threat**



Background: "A Grave and Urgent Threat"

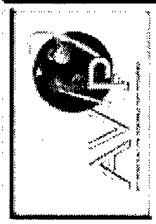
- **Anthrax - an offensive BW agent**

- ◆ Highly lethal
- ◆ Easy to develop and weaponize
- ◆ Remains viable for long periods
- ◆ Colorless, odorless, difficult to detect
- ◆ At least 7 potential adversaries suspected of researching, developing, and/or weaponizing anthrax

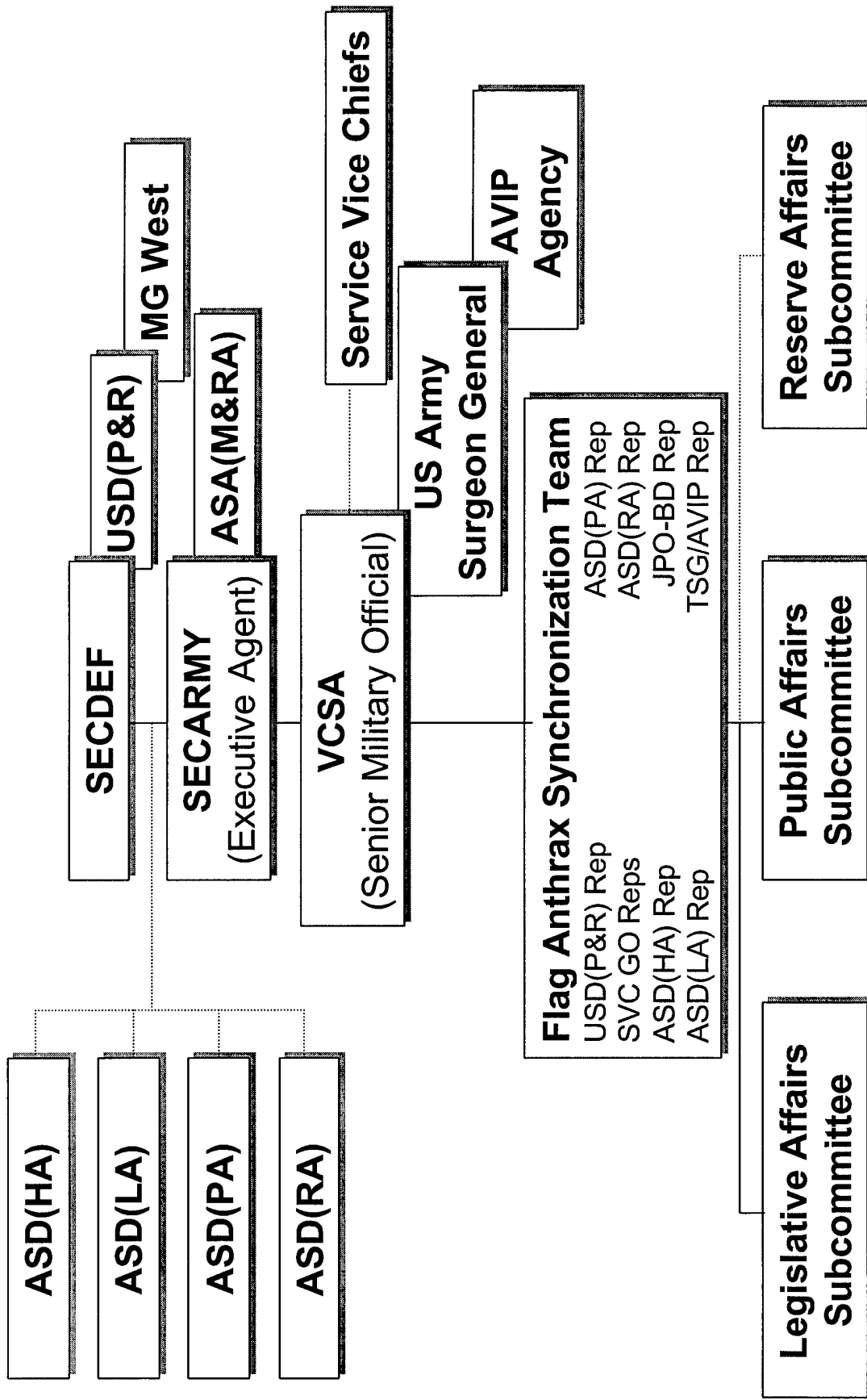
- **Three modes of transmission: cutaneous, intestinal, inhalational**

- **Pathogenesis**

- ◆ Spores enter lungs, are ingested by pulmonary macrophages and migrate to lymph nodes--spores germinate, change to bacterial forms, multiply, and produce toxins--incubation 1-6 days
- ◆ Toxins cause bleeding destruction of pulmonary and thoracic tissues, resulting in septicemia, pneumonia, meningitis
- ◆ Abrupt respiratory distress, shock, death occur 24-36 hours from symptoms onset



DOD AVIP Organization

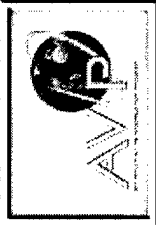


*18 May 1998 SECDEF Memo Provides Overarching Guidance



Responsibilities: 18 May 98 Directive

- **SECARMY, IAW DoDD 6205.3, DoD Immunization Program for Biological Warfare Defense, will exercise Executive Agency for Department's Anthrax Vaccination Program.**
- **SECARMY will assign a senior military official to implement vaccine acquisition and stockpiling; and, on behalf of Executive Agent, will perform the following:**
 - ◆ Manage and administer overall program
 - ◆ Serve as focal point for information
 - ◆ Monitor Services' implementation
 - ◆ Execute Army's implementation plan
 - ◆ Report quarterly to Under Secretary of Defense (Personnel & Readiness) on program's progress

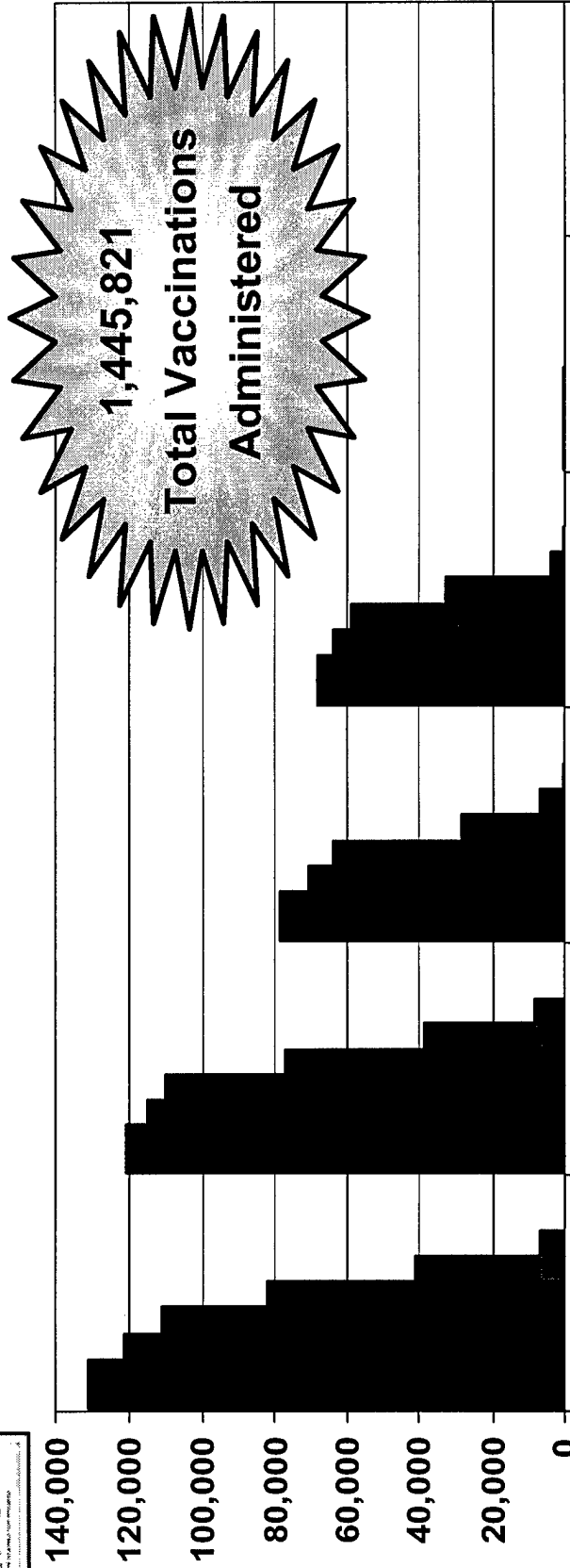


Responsibilities: 18 May 98 Directive (cont'd)

- **Service Secretaries are directed to assign a senior military official to implement respective Service plans... The Secretaries are further directed to implement, monitor, evaluate, and document the [AVIP] in their respective departments**
- **Assistant Secretary of Defense(ASD) (Public Affairs) is directed to carry out the public communications plan and ensure consistency of informational materials for military members**
- **ASD (Health Affairs) is responsible for promulgation of medical standards, policies and protocols for program**
- **ASD (Legislative Affairs) is directed to carry out the Congressional notification plan**



Total Force Anthrax Immunization Status

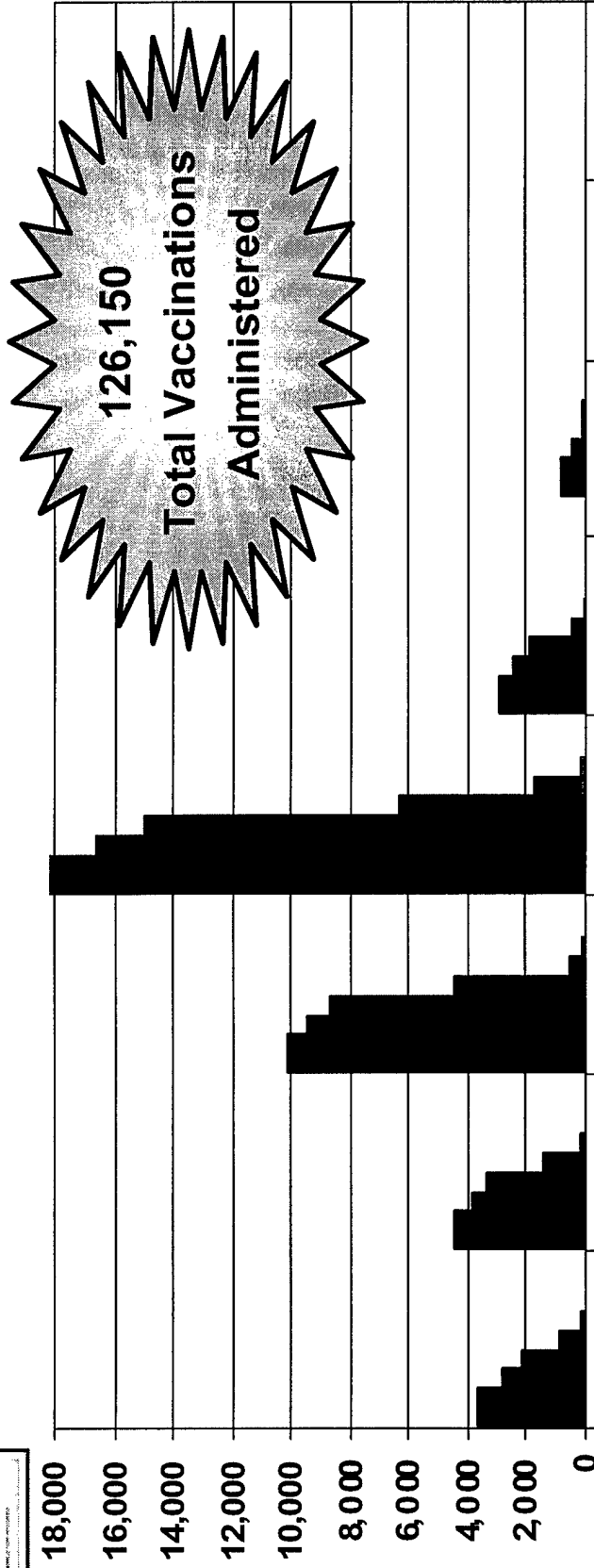


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|----------|---------|---------|---------|---------|-------|-----------|
| Shot #1 | 131,449 | 120,791 | 78,700 | 68,259 | 343 | 399,542 |
| Shot #2 | 121,363 | 115,324 | 70,591 | 64,252 | 325 | 371,855 |
| Shot #3 | 111,280 | 110,030 | 63,930 | 59,380 | 305 | 344,925 |
| Shot #4 | 82,153 | 77,488 | 28,651 | 32,674 | 132 | 221,098 |
| Shot #5 | 41,322 | 38,836 | 6,918 | 3,985 | 20 | 91,081 |
| Shot #6 | 7,258 | 8,510 | 647 | 644 | 7 | 17,066 |
| Boosters | 215 | 39 | 0 | 0 | 0 | 254 |
| Total | 495,040 | 471,018 | 249,437 | 229,194 | 1,132 | 1,445,821 |

All Data From DEERS 27 JAN 00



Reserve Components Anthrax Immunization Status

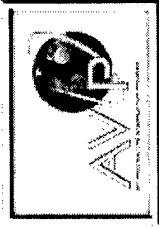


All data from DEERS 27 JAN 00



Reserve Component Implementation Progress

- **DOD recognized the need for increased access for administration of Anthrax Vaccine to minimize training time lost**
- **Continued development of The Federal Strategic Health Alliance for Force Health Protection initiative (FSHA-FHP), an alliance with federal agencies and the private sector to provide nationwide increased access :**
 - ◆ Internal RC medical assets
 - ◆ DoD medical-treatment facilities
 - ◆ Division of Federal Occupational Health (FOH), PHS
 - ◆ VA/DoD Sharing Agreement
 - ◆ Private-sector contractor, The Arora Group Inc.



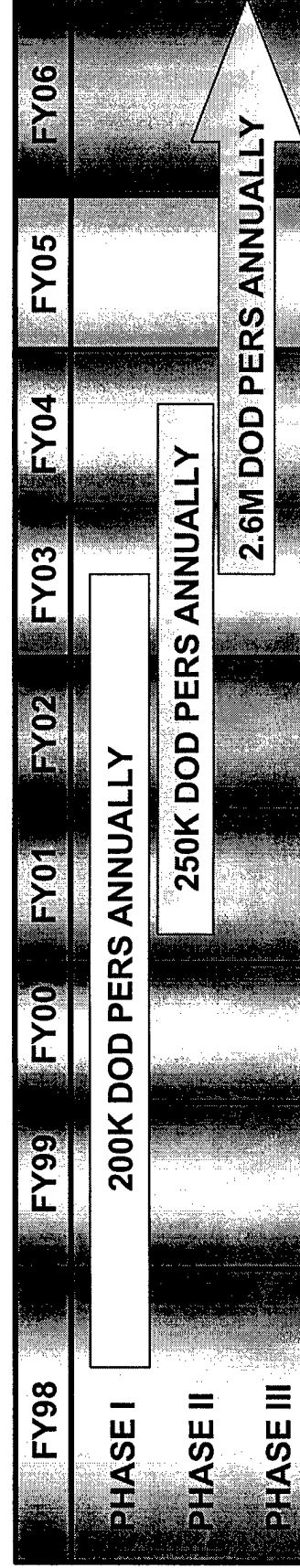
Vaccine Stockpile/BioPort

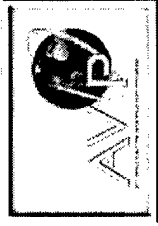
- No new vaccine available from BioPort's renovated anthrax vaccine (AVA) production suite until FDA approves BioPort's Biologic License Application (BLA) supplement.
- Approval of BLA is iterative and complicated process--FDA considers both:
 - ◆ Renovation of anthrax vaccine production suite
 - ◆ Validation of vaccine production process
(DoD estimates 6-12 months before FDA approval)
- AVA stockpile update as of 1 Jan 00:
 - ◆ Approx 400K at BioPort ready to ship
 - ◆ Approx 609K projected for FDA-release 3QFY00
 - ◆ Approx 50K on shelves world wide
- Bottom Line: Current and projected stockpile doses sufficient to continue Phase I execution through CY00



Phased Execution for the Total Force

- **PHASE I:** Continues as planned. DoD vaccinating only forces assigned or rotating to High Threat Areas (HTA) of Southwest Asia (SWA) and Korea
- **PHASE II:** Starts only after “assured production” of vaccine is guaranteed by BioPort/FDA approval. DoD will vaccinate early-deploying forces (C to C+35) into HTAs of SWA and Korea
- **PHASE III:** Remainder of Total Force, accessions, and sustainment





Anthrax Vaccine, Adsorbed

- Manufactured by BioPort, Corp, Lansing, Michigan
- FDA licensed product since 1970; NOT an investigational new drug (IND)
- Dosing schedule, 6 doses over 18 mos: 0,2,4 weeks; 6, 12, 18 mos; annual booster thereafter
- Inactivated, cell-free, made from a strain of anthrax that does not cause the disease
- Basic component is the Protective Antigen, common to all naturally occurring strains of *bacillus anthracis*
- The Protective Antigen is adsorbed to aluminum hydroxide, an adjuvant that increases the amount of antibodies produced by the body in response

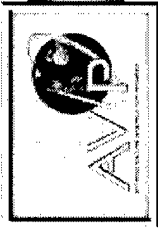


Efficacy

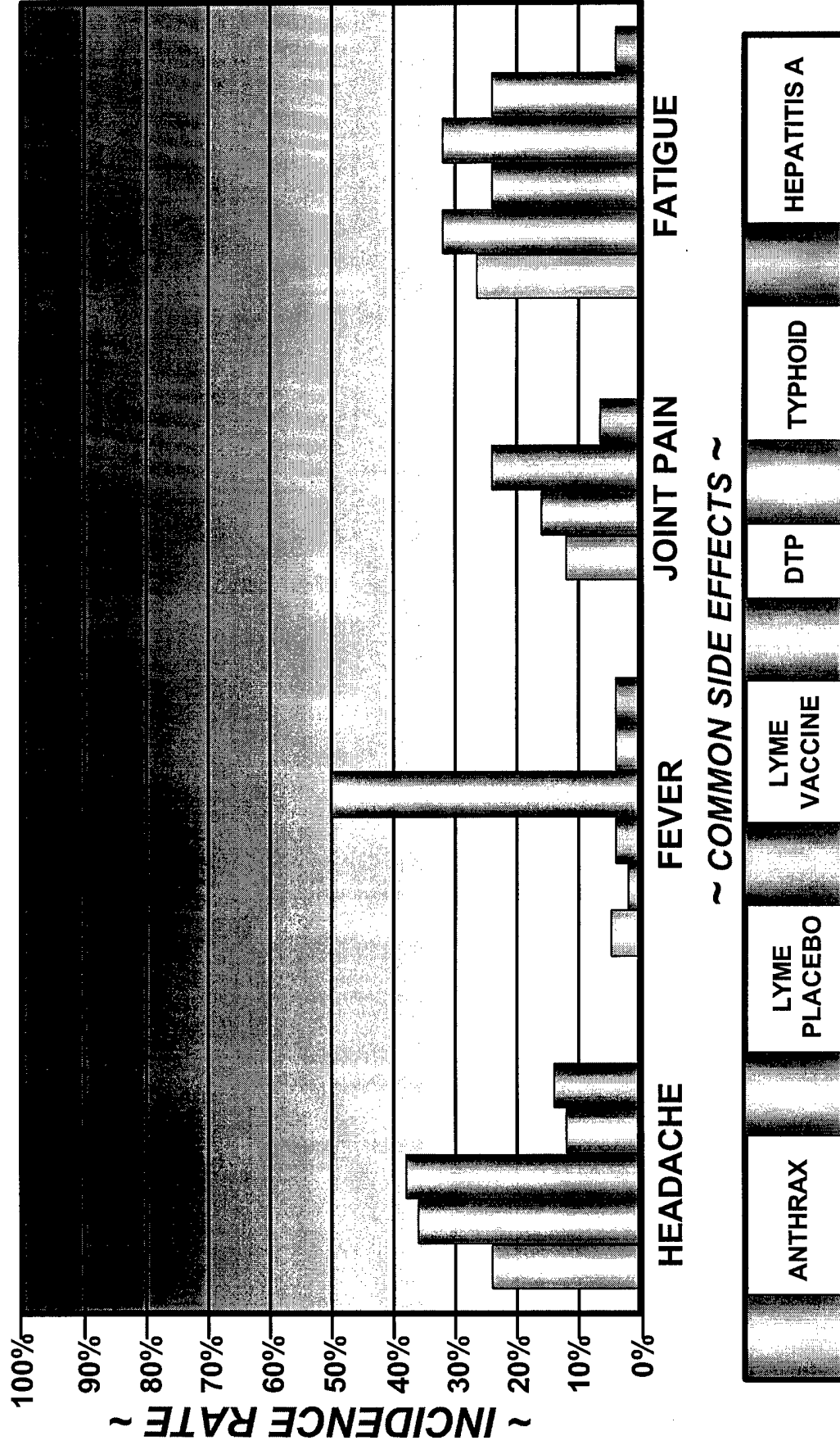
- Human clinical field trial, Brachman et al, 1950s: 92.5% effective in preventing anthrax, jointly cutaneous and inhaled (5 inhaled cases among unvaccinated; 0 cases among vaccinated)
- Unethical to conduct further human research; must rely on animal data: 95%-98% of vaccinated rhesus monkeys survive lethal inhalation challenge-- unvaccinated monkeys die
- Protective value of US anthrax vaccine based on human data, animal data, and understanding of immunology



- **Side-effect profile similar to other vaccines**
- **Inactivated vaccines do not affect fertility**
- **Inactivated vaccines do not affect pregnancy**
- **No known long-term health effects based on numerous studies over last 50 years**
- **Anthrax vaccine studied longer than hepatitis A and B, Lyme disease and chicken-pox vaccines**
- **VAERS monitoring: Unprecedented review by independent civilian panel--no unexpected patterns of adverse events**



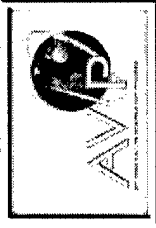
Vaccine Side-Effect Profile



NOTE: ANTHRAX RATES DERIVED FROM COMBINED EXPERIENCE OF TAMC-600 SURVEY AND USAMRIID REDUCED DOSE STUDY



- **620 VAERS forms reviewed as of 7 Jan 00 by Anthrax Vaccine Expert Committee (AVEC):**
 - ◆ 488 reports other than serious (no loss of duty >24 hours and no hospitalization)
 - ◆ Loss of duty >24 hours: 106 (of these, 70 certainly or probably caused by anthrax vaccine)
 - ◆ Hospitalized: 26 (of these, 6 certainly or probably caused by anthrax vaccine; all 6 were allergic reactions at injection site)
- **AVEC concludes: "It is apparent that it is safe to continue the anthrax vaccine immunization program of the Department of Defense, and it is appropriate to continue to monitor the vaccine adverse events reports and review the safety of the vaccine on an ongoing basis."**
- **FDA, in repeated 1999 Congressional testimonies, maintains: "We believe anthrax vaccine is a safe and effective vaccine for the prevention of anthrax disease."**



Immunization Refusal Update

- **Services currently have no formal reporting requirement**
- **By informal surveys, 319 DoD total refusals to date:**
 - ◆ USA 48
 - ◆ USAF 91
 - ◆ USMC 60
 - ◆ USN 120
 - ◆ USCG 0
- **AVIP Agency is coordinating message to Army Major Commands requiring quarterly formal report of Army anthrax vaccination refusals**
 - ◆ Army believes needed for better AVIP management and execution
 - ◆ GAO recommends
 - ◆ Congressional members repeatedly require
- **For service members refusing vaccinations, commanders take action, administrative and/or under the Uniform Code of Military Justice, case-by-case, based on individual merit**



- **DoD AVIP Internet web site:** www.anthrax.osd.mil
- **Toll Free Information Line:** 1-877-GETVACC
 - ◆ 10-hour daily operation; answering service after hours; flexible contract facilitates expanded hours if needed
 - ◆ Quick replies; links to subject-matter experts
- **Reader Email:** avip@otsg.amedd.army.mil
- **Distributive training products**
 - ◆ New Quadfold on web site 15 Nov 99
 - ◆ Program-overview videotape, DoD approved 13 Jan 00; reproduction and DoD-wide distribution Feb-Mar 00; part of Force Health Protection Training FY00
 - ◆ Silent Training Aids
 - ◆ Interactive multimedia CD-ROM, 1 May 00



Research Initiatives

● **Completed:**

- ◆ Effectiveness: One human, multiple animal studies
- ◆ Safety: 12 human studies

● **Under Way:**

- ◆ Analyses of Fort Detrick lab workers since 1973
- ◆ Analyses of inpatient/outpatient utilization (medical databases)
- ◆ Continuation of TAMC-600 study

● **In Development:**

- ◆ Expansion of route-change/dose-reduction study
- ◆ Correlates of protection, additional animal-challenge studies
- ◆ Evaluation of education-communication methods
- ◆ Long-term surveillance projects



Program Points of Contact

● AVIP Agency/USA

| | |
|--------------------------------------|-----------------------------|
| LTC Randy Randolph, Director | 703-681-5101 (DSN 761-XXXX) |
| LTC John Grabenstein, D Dir Clin Ops | 703-681-5059 |
| MAJ Jeff Quinn, D Dir Ops/USA | 703-681-2901 |
| Ms. Cathy Call, Pgm Mgr | 703-681-3292 |
| Ms. Amy Bishop (AVIP Agency) | 703-681-3886 |
| Mr. Jim Poignon (AVIP Agency) | 703-681-3028 |
| LTC Jane Monville, ARNG | 703-607-7149; DSN 327-XXXX |
| MAJ Don Donahue, OCAR | 703-601-3492; DSN 329-XXXX |

● USAF

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| Col Harvey Crowder | 202-767-4280 (DSN 297-XXXX) |
| Maj Lisa Pegues | 202-767-4216 |
| Maj Paul Rehme, ANG | 301-836-7601 (DSN 278-XXXX) |
| Ms. Hayley Hughes (AVIP Agency) | 703-681-4935 |

● USMC

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| CAPT Ken Schor (Med) | 703-614-4478 (DSN 224-XXXX) |
| LtCol Michael Strain (Ops) | 703-614-4222 x5367 |

● USN

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| LCDR Celia Quivers | 703-601-1716 (DSN 729-XXXX) |
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● USCG

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| CDR Mark Tedesco | 202-267-0528 |
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